intestinal tissue model is subjected to physical disruption prior to being contacted with the candidate therapeutic agent.

38. The method of any one of claims **29-34**, wherein the intestinal disorder or injury is a fibrotic disorder.

39. The method of any one of claims **29-34**, wherein the intestinal disorder or injury is an infectious disease.

40. The method of any one of claims **29-34**, wherein the intestinal disorder or injury is cancer.

41. The method of claim **40**, wherein the cancer is colorectal cancer.

42. The method of any one of claims **29-34**, wherein the intestinal tissue model is contacted with a potential toxic agent prior to being contacted with the candidate therapeutic agent.

43. The method of claim **42**, wherein the potential toxic agent is a toxin, a therapeutic agent, an antimicrobial agent, a metal, an microorganisim (e.g., bacteria, virus, parasite, fungus), or an environmental agent.

44. The method of claim **42**, wherein the potential toxic agent is an antiviral, an analgesic agent, an antidepressant agent, a diuretic agent, or a proton pump inhibitor.

45. The method of claim **42**, wherein the potential toxic agent is a cytokine, a chemokine, a small molecule drug, a large molecule drug, a protein or a peptide.

46. The method of claim **42**, wherein the potential toxic agent is a chemotherapeutic agent.

47. The method of claim **42**, wherein the potential toxic agent is ibuprofen, acetaminophen, lithium, acyclovir, amphotericin B, and aminoglycoside, a beta lactams, foscavir, ganciclovir, pentamidine, a quinolone, a sulfonamide, vancomycin, rifampin, adefovir, indinavir, didofovir, tenofovir, methotrexate, lansoprazole, omeprazole, pantoprazole, allopurinol, phenytoin, ifosfamide, gentamycin, or zoledronate.

48. The method of claim **42**, wherein the potential toxic agent is radiation.

49. The method of claim **42**, wherein the potential toxic agent is an immune activator or modulator.

50. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue cells is determined by measuring an indicator of metabolic activity.

51. The method of claim **50**, wherein the indicator of metabolic activity is resazurin reduction, tetrazolium salt reduction, caspase, or ATP level in the intestinal tissue model compared to a control.

52. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue model is barrier function compared to a control.

53. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue model is drug efflux compared to a control.

54. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue model is cytochrome P450 3A4 (CYP3A4) activity compared to a control.

55. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue model is RNA or protein expression compared to a control.

56. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue model is peptide secretion compared to a control.

57. The method of claim **56**, wherein the peptide is a cytokine.

58. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue model is determined by histology compared to a control.

59. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue cells is determined by identifying regeneration of the intestinal tissue cells compared to a control.

60. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue cells is determined by measuring mucus secretion compared to a control.

61. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue cells is determined by measuring transporter activity compared to a control.

62. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue cells is determined by measuring enzyme activity compared to a control.

63. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue cells is determined by measuring triglyceride synthesis compared to a control.

64. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue cells is determined by measuring chylomicron secretion activity compared to a control.

65. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue cells is determined by measuring collagen production compared to a control.

66. The method of any one of claims **29-49**, wherein the viability or functionality of the intestinal tissue epithelial cells is measured over time.

67. The method of any one of claims **29-66**, which is a method to reverse or reduce injury by a toxic agent, and the intestinal tissue model is contacted first with the toxic agent and then with the candidate therapeutic agent.

68. The method of any one of claims **29-66**, which is a method to reduce or prevent injury by a toxic agent, and the intestinal tissue model is contacted first with the candidate therapeutic agent and then with the toxic agent.

69. The method of any one of claims **29-68**, wherein the intestinal tissue model has been cultured in a cell culture medium prior to being contacted with the candidate therapeutic agent and the toxic agent.

70. The method of claim **69**, wherein the intestinal tissue model has been cultured for at least 3 days in the cell culture medium.

71. A method of assessing the effect of a potential toxic agent on intestinal function, the method comprising:

(a) contacting the agent with the three-dimensional, engineered, bioprinted, biological intestinal tissue model of any one of claims **1-28**; and

(b) measuring the effect of the agent on the viability or functionality of the intestinal tissue model cells.

72. The method of claim **71**, which is a method to reverse or reduce injury by a toxic agent, and the intestinal tissue model is contacted first with the toxic agent and then the potential toxic agent is removed.

73. A method of assessing the kinetics of intestinal absorption of an agent, the method comprising: